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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
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10/671,071

09/25/2003

Jack R. Olson

84300

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32697

7590

02/25/2004

OFFICE OF PATENT COUNSEL
SPAWARSYCEN, CODE 20012
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EXAMINER

COURSON, TANIA C

ART UNIT

PAPER NUMBER

2859

DATE MAILED: 02/25/2004

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary

Application No.

10/671,071

Applicant(s)

OLSON, JACK R.

Examiner

Tania C. Courson

Art Unit

2859

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☐ Responsive to communication(s) filed on ____.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-9 is/are pending in the application.
- 4a) Of the above claim(s) ____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) ____ is/are allowed.
- 6) ☒ Claim(s) 1-9 is/are rejected.
- 7) ☐ Claim(s) ____ is/are objected to.
- 8) ☐ Claim(s) ____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☒ The specification is objected to by the Examiner.
- 10) ☒ The drawing(s) filed on 25 September 2003 is/are: a) ☒ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some * c) ☐ None of:
- ☐ Certified copies of the priority documents have been received.
 - ☐ Certified copies of the priority documents have been received in Application No. ____.
 - ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).
- * See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- | | |
|--|---|
| 1) <input checked="" type="checkbox"/> Notice of References Cited (PTO-892) | 4) <input type="checkbox"/> Interview Summary (PTO-413)
Paper No(s)/Mail Date. ____. |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948) | 5) <input type="checkbox"/> Notice of Informal Patent Application (PTO-152) |
| 3) <input checked="" type="checkbox"/> Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)
Paper No(s)/Mail Date <u>25SEP03</u> . | 6) <input type="checkbox"/> Other: ____. |

DETAILED ACTION

Priority

1. This application appears not to be a division of Application No. 09/878,504, filed June 11, 2001. A later application for a distinct or independent invention, carved out of a pending application and disclosing and claiming only subject matter disclosed in an earlier or parent application is known as a divisional application or "division." The divisional application should set forth only that portion of the earlier disclosure which is germane to the invention as claimed in the divisional application.

Since the restriction requirement initially verbally stated in application 09/878,504 was withdrawn by the examiner, this application (10/671,071) would appear to be a Continuation, versus a Divisional of application 09/878,504.

Specification

2. The disclosure is objected to because of the following informalities:
- a) on page 1, line 5, change "a divisional" to "a continuation".

Appropriate correction is required.

Claim Rejections - 35 USC § 103

3. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

4. Claims 1-3, 5-8 are rejected under 35 U.S.C. 103(a) as being unpatentable over Seipp, Jr. et al. (U.S. Patent No. 5,852,878) in view of Ogawa et al. (U.S. Patent No. 5,930,907).

Seipp, Jr. et al. disclose an electrolytic tilt sensor device and method of manufacturing including the following:

- a) forming first and second sensing electrodes (Fig. 2A, working electrode 26 and 28) on a generally planar surface of a dielectric substrate/printed circuit board (Fig. 2A, cover plate/ printed circuit board 24) and in contact with the planar surface of the dielectric substrate/printed circuit board (Fig.2B);
- b) mounting a housing (Fig. 2B, housing 22) to said dielectric substrate/printed circuit board so that the first and second sensing electrodes are contiguous to a volume defined between said housing and said dielectric substrate/printed circuit board (Fig. 2B);
- c) forming a fluid tight seal between said housing and said dielectric substrate/printed circuit board (column 3, lines 35-36);
- d) injecting an electrolytic fluid into said volume (column 6, lines 19-24);
- e) sealing said electrolytic fluid in said volume (column 6, lines 37-38);
- f) forming an electrical circuit on said dielectric substrate/printed circuit board for generating an output signal representing an angular position of said dielectric substrate/printed circuit board with respect to gravitational field (column 3, lines 3-7);
- g) using printed circuit board fabrication technique (column 3, lines 21-34);

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- h) wherein said first and second sensing electrode are positioned along an arcuate path (Fig. 2A);
- i) forming an aperture (passageway 48) through said housing, wherein the step of injecting includes injecting said electrolytic fluid through said aperture, and the step of sealing includes sealing said aperture to secure said electrolytic fluid in said volume (column 7, lines 54-59).

Seipp, Jr. et al. do not disclose an electrical circuit including an oscillator mounted on a planar surface.

With respect to an electrical circuit including an oscillator mounted on a planar surface, Ogawa et al. teach an electrical sensor and method of manufacturing that consists of an electrical circuit including an oscillator mounted on a planar surface (Fig. 4). Therefore, it would have been obvious to one having ordinary skill in the art at the time the invention was made to further modify the electrolytic tilt sensor device and method of manufacturing of Seipp, Jr. et al., so as to include an oscillator mounted on said planar surface, as taught by Ogawa et al., so as to provide an alternating current system during use of the electrolytic tilt sensor device.

Furthermore, since the oscillator is shown on the sensor circuit diagram (Fig. 4), it is implied that the oscillator is located on the circuit board in order for it to be a part of the circuit diagram.

5. Claims 4 and 9 are rejected under 35 U.S.C. 103(a) as being unpatentable over Seipp, Jr. et al. and Ogawa et al., as applied to claims 1-3, 5-6 and 7-8 as stated above, and further in view of Takeuchi et al. (U.S. Patent No. 6,442,855).

Seipp, Jr. et al. and Ogawa et al., disclose an electrolytic tilt sensor device and method of manufacturing as stated above in paragraph 4.

They do not disclose forming a via through a dielectric substrate/printed circuit board and wherein the step of injecting includes injecting electrolytic fluid through said via into a volume, and the step of sealing includes sealing said via.

With respect to forming a via through a dielectric substrate/printed circuit board and wherein the step of injecting includes injecting electrolytic fluid through said via into a volume, and the step of sealing includes sealing said via, Takeuchi et al. teach a tilt sensor device and method of manufacturing that contains forming a via through a dielectric substrate/printed circuit board and wherein the step of injecting includes injecting electrolytic fluid through said via into a volume (Fig. 1, and column 9, lines 4-10). Therefore, it would have been obvious to one having ordinary skill in the art at the time the invention was made to further modify the electrolytic tilt sensor device and method of manufacturing of Seipp, Jr. et al. and Ogawa et al., so as to replace the method of injecting electrolytic fluid through a hole in the housing with the method of injecting electrolytic fluid through a via in the dielectric substrate/printed circuit board, as taught by Takeuchi et al., because both are well known alternate types of methods of injecting electrolytic fluid which will perform the same function, if one is replaced with the other, of filling a closed space in such a way that the level of the liquid varies according to the tilt of the device.

Double Patenting

6. The nonstatutory double patenting rejection is based on a judicially created doctrine grounded in public policy (a policy reflected in the statute) so as to prevent the unjustified or improper timewise extension of the "right to exclude" granted by a patent and to prevent possible harassment by multiple assignees. See *In re Goodman*, 11 F.3d 1046, 29 USPQ2d 2010 (Fed. Cir. 1993); *In re Longi*, 759 F.2d 887, 225 USPQ 645 (Fed. Cir. 1985); *In re Van Ornum*, 686 F.2d 937, 214 USPQ 761 (CCPA 1982); *In re Vogel*, 422 F.2d 438, 164 USPQ 619 (CCPA 1970); and, *In re Thorington*, 418 F.2d 528, 163 USPQ 644 (CCPA 1969).

A timely filed terminal disclaimer in compliance with 37 CFR 1.321(c) may be used to overcome an actual or provisional rejection based on a nonstatutory double patenting ground provided the conflicting application or patent is shown to be commonly owned with this application. See 37 CFR 1.130(b).

Effective January 1, 1994, a registered attorney or agent of record may sign a terminal disclaimer. A terminal disclaimer signed by the assignee must fully comply with 37 CFR 3.73(b).

7. Claims 1-9 are rejected under the judicially created doctrine of obviousness-type double patenting as being unpatentable over claims 1-9 of U.S. Patent No. 6,625,896 B1. Although the conflicting claims are not identical, they are not patentably distinct from each other because during normal use of the device claimed in the U.S. Patent, the apparatus and method steps stated in the claims of this application would be met, particularly since the apparatus and method steps claimed in the U.S. Patent have the same features as the apparatus and method steps stated in this applications' claims, e.g. (the forming first and second sensing electrodes on a generally planar surface of a dielectric substrate, forming a reference electrode on said generally planar surface).

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Conclusion

8. The prior art made of record and not relied upon is considered pertinent to applicant's disclosure.

The prior art cited on PTO-892 and not mentioned above disclose a tilt sensor device:

* Olson (US 6,625,896)

(* = a copy of this reference is not being furnished with this Office Action)

9. Any inquiry concerning this communication or earlier communications from the examiner should be directed to Tania C. Courson whose telephone number is (571) 272-2239

The examiner can normally be reached on Monday-Friday from 8:00AM to 4:30PM.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Diego Gutierrez, can be reached on (571) 272-2245. The fax number for this Organization where this application or proceeding is assigned is (703) 872-9306.



DIEGO F.F. GUTIERREZ
SUPERVISORY PATENT EXAMINER
GROUP ART UNIT 2859

TCC
February 22, 2004